Appendix N

Public Meeting Summary Reports

ALAMO RMA

Alamo Regional Mobility Authority

"Moving people faster"

Final Meeting Report

US 281 Environmental Impact Statement Public Meeting #3

Prepared for the Federal Highway Administration

San Antonio, Texas
April 29, 2010

Exhibits

WELCOME!

Public Meeting #3

US 281 Environmental Impact Statement (EIS)

5:30 PM – 9:00 PM

Thursday, April 29, 2010

ALAMO RMA

Alamo Regional Mobility Authority

"Moving people faster"

Registration and Information

- Please Sign In -

- Pick Up Your Information Packet
- Tour the Exhibits at Your Own Pace
- Join us for the Presentation at 7:00 P.M.
- Participate in the Small Group Work Sessions from 7:30 P.M. - 9:00 P.M.
- Please Record and Submit Your Comments

ALAMO RMA
Alamo Regional Mobility Authority
"Moving people faster"

How to Record and Submit Your Comments

At the Meeting:

- Fill out a comment card and drop in the comment box

and/or

- Give your comments verbally to the Court Reporter

After the Meeting:

- Submit comments (through Monday, May 10, 2010)
  - Fax to (210) 495-5403
  - E-mail to US281EIS@AlamoRMA.org
  - Website www.411on281.com/US281EIS
- Mail written comments (through Monday, May 10, 2010) to:

US 281 EIS Team

Alamo Regional Mobility Authority

1222 N. Main Avenue, Suite 1000

San Antonio, Texas 78212

The presentation and exhibits from tonight's meeting are available for download at

www.411on281.com/US281EIS

ALAMO RMA

Alamo Regional Mobility Authority

"Moving people faster"

BACKGROUND INFORMATION

N-1309

AGENCIES INVOLVED IN THE EIS PROCESS

LEAD AGENCIES:

- Federal Highway Administration
- Alamo Regional Mobility Authority
- Texas Department of Transportation

INVITED COOPERATING AND PARTICIPATING AGENCIES:

- Federal Transit Administration
- U.S. Army Corps of Engineers
- U.S. Department of Agriculture, Natural Resources Conservation Services
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife
- U.S. Department of the Interior
- Native American Tribes (multiple)
- Texas Historical Commission
- Texas Parks and Wildlife Department
- Texas Commission on Environmental Quality
- Bexar County
- City of San Antonio
- Comal County
- City of Bulverde
- Edwards Aquifer Authority
- San Antonio Water System
- San Antonio River Authority
- San Antonio-Bexar County Metropolitan Planning Organization
- VIA Metropolitan Transit
- Alamo Area Council of Governments
- Bexar Metropolitan Water District
- Camp Bullis

WHAT IS NEPA?

The ***National Environmental Policy Act (NEPA)*** requires agencies to undertake an assessment of the environmental effects of their proposed actions prior to making decisions. Two major purposes of the environmental review process are ***better informed decisions and citizen involvement both of which should lead to implementation*** *on NEPA's policies.*

In 1969, the Congress declared "that it is the continuing policy of the Federal Government, in cooperation with the State and local governments, and other concerned public and private organizations, to use all practicable means and measures ...to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans."

Excerpts from: *A Citizen's Guide to the NEPA, December 2007*

WHAT IS NEPA?

NEPA's National Objectives:

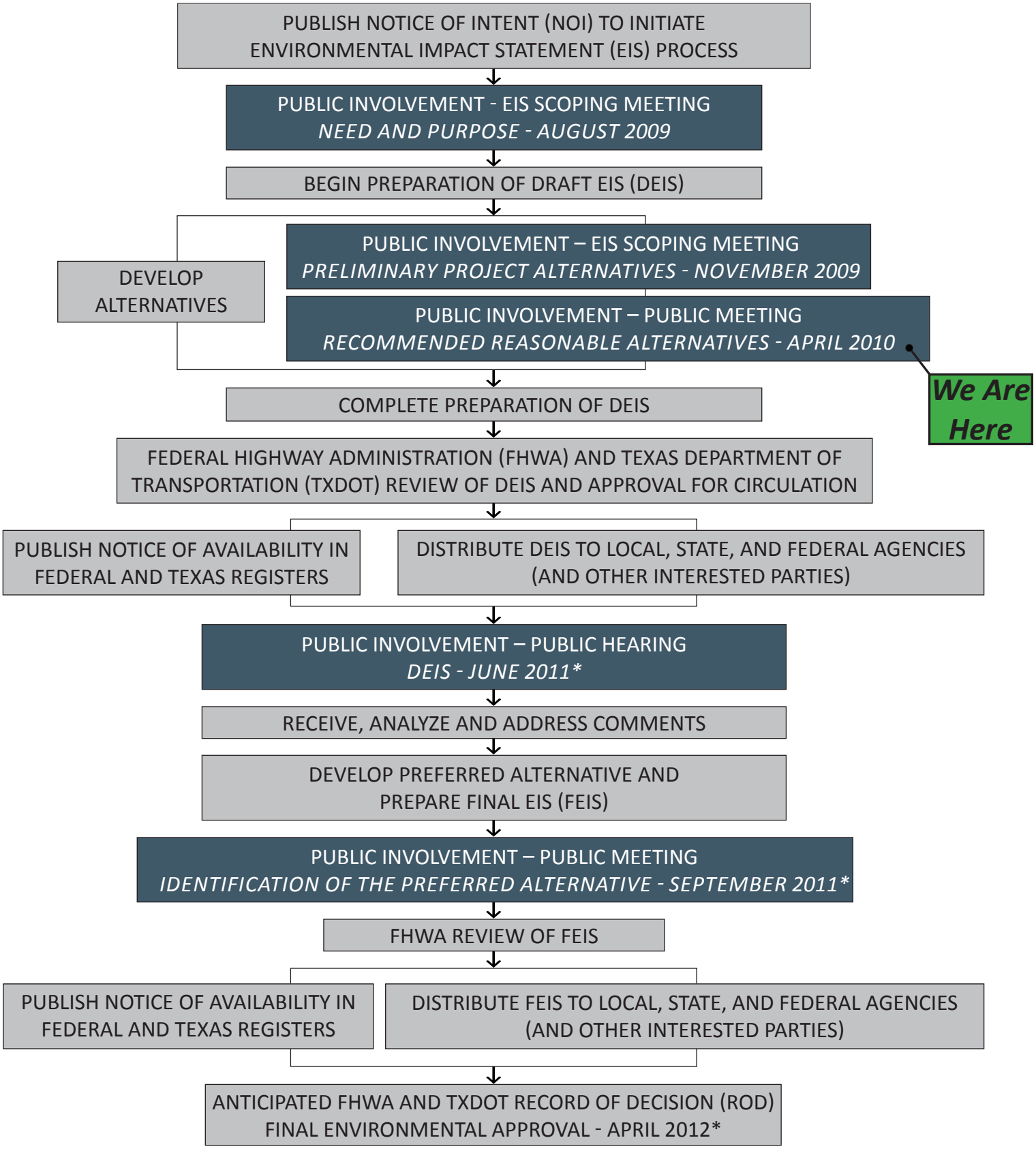
1. Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
2. Assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings;
3. Attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;
4. Preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity, and variety of individual choice;
5. Achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and
6. Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

The Congress recognizes that each person should enjoy a ***healthful environment*** and that each person has a responsibility to contribute to the preservation and enhancement of the environment.

A Federal agency must prepare an EIS if it is proposing a major federal action significantly affecting the quality of the human environment.

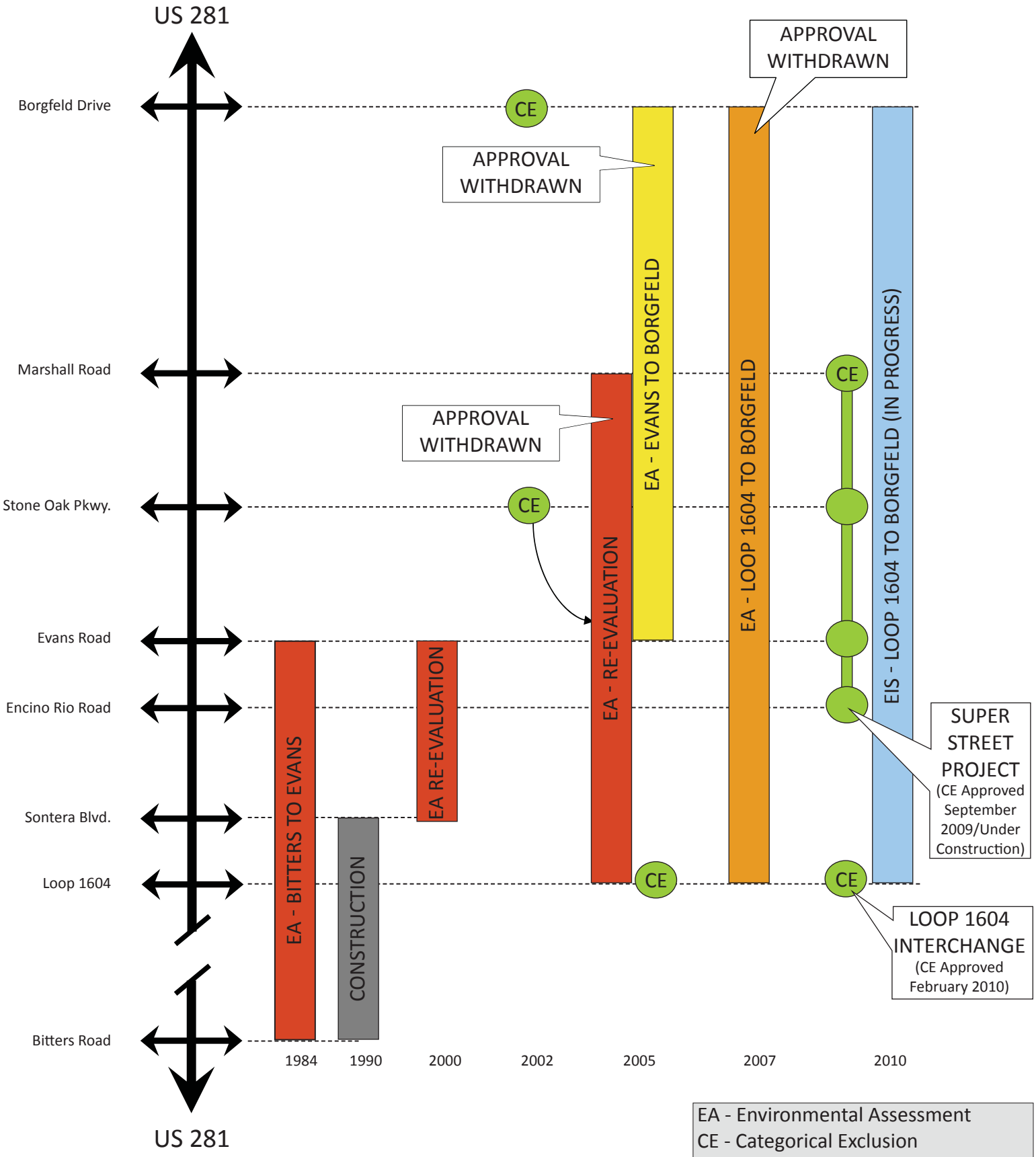
Excerpts from: *A Citizen's Guide to the NEPA, December 2007*

Environmental Impact Statement Process



* Approximate Dates

History of US 281 Environmental Documentation



FACTORS BEING CONSIDERED IN THE DRAFT EIS

- Land Use Impacts
- Farmland Impacts
- Social Impacts including Environmental Justice (includes tolling analysis)
- Relocation Impacts
- Economic Impacts (includes tolling analysis)
- Transportation Impacts
- Multi-Agency Planning (i.e. coordination with VIA Metropolitan Transit)
- Considerations Relating to Pedestrians and Bicyclists
- Air Quality Impacts
- Noise Impacts
- Geology/Soils
- Avoid/minimize adverse water quality Impacts
- Wetland Impacts
- Water Body Modifications
- Floodplain Impacts
- Vegetation Impacts
- Wildlife Impacts
- Threatened or Endangered Species
- Historic and Archeological Impacts
- Hazardous Waste Sites
- Visual Impacts
- Energy
- Construction Impacts
- Indirect Impacts
- Cumulative Impacts
- Mitigation and Permit Requirements
- Public Involvement

WHAT IS A NEED AND PURPOSE STATEMENT?

The Need and Purpose Statement explains why an action is necessary and what purpose the action will serve. The Statement serves as the basis for identifying and evaluating preliminary alternatives that meet the Need and Purpose.

Excerpts from: *A Citizen's Guide to the NEPA, December 2007*

Need and Purpose:

SAFETY

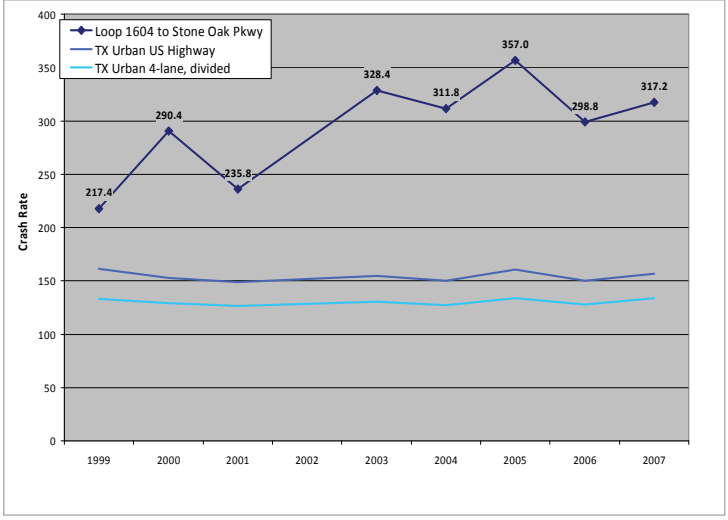
GROWTH

FUNCTIONALITY

QUALITY OF LIFE

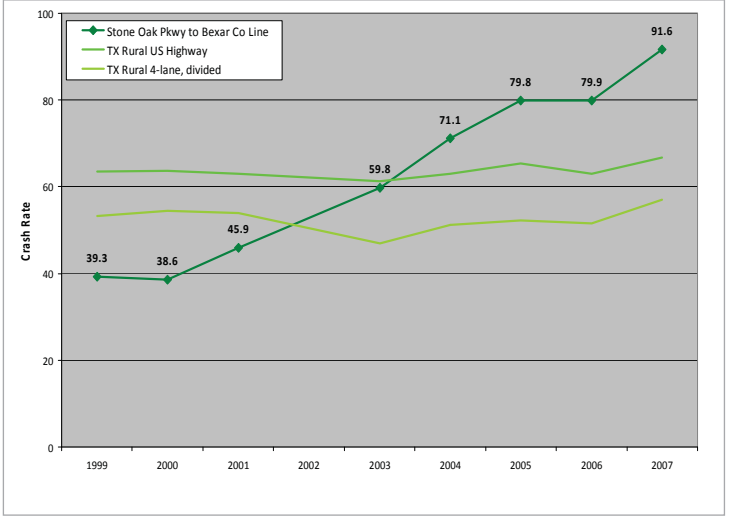
SAFETY

Urban - Crashes per 100 Million Vehicle Miles Traveled



Source: Traffic Operations Division, Texas Department of Transportation, as of June 2009

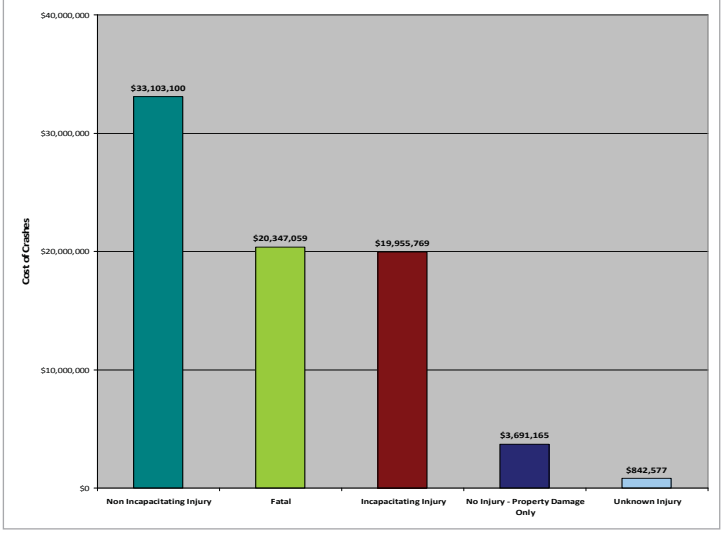
Rural - Crashes per 100 Million Vehicle Miles Traveled



Source: Traffic Operations Division, Texas Department of Transportation, as of June 2009

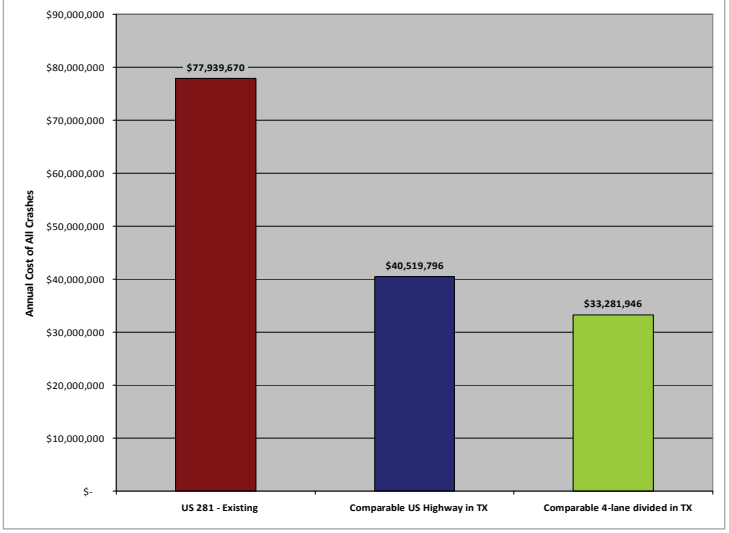
The crash rate on US 281 is substantially higher than the Statewide average

Total Cost of Crashes – 2003 to 2007



Source: Texas Department of Transportation, as of June 2009 and American Association of State Highway and Transportation Officials, as of 2006

US 281 Crash Cost Comparison – 2003 to 2007

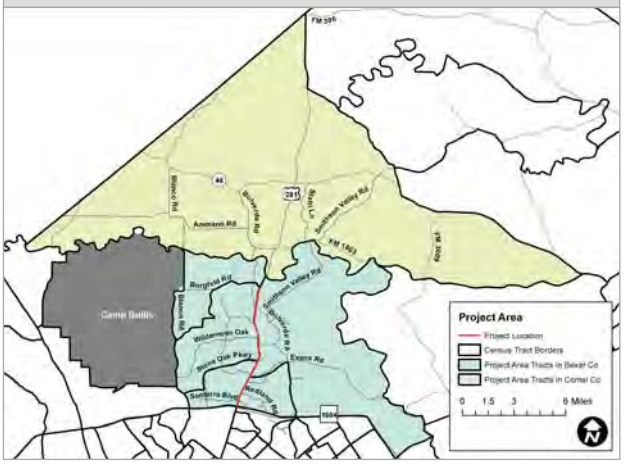


Source: Texas Department of Transportation, as of June 2009 and American Association of State Highway and Transportation Officials, as of 2006

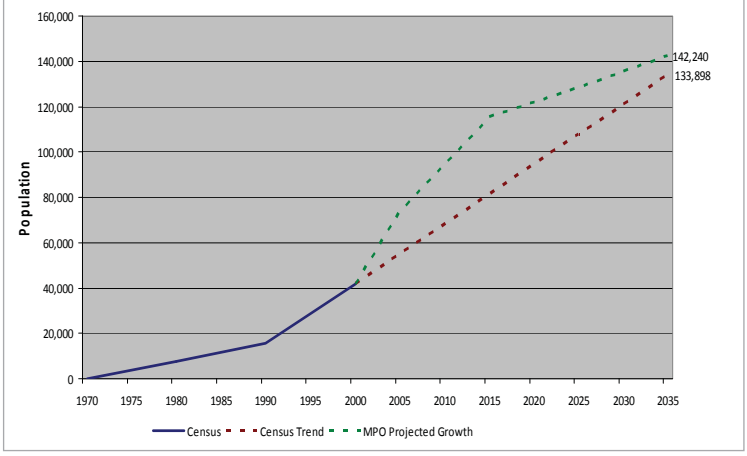
The cost of crashes on US 281 was almost twice as much as an average US Highway in Texas

GROWTH

Project Area



Project Area Population - Historical and Projected

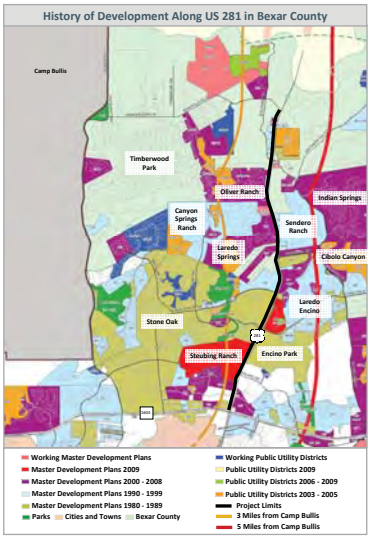


Source: US Census Bureau, 1970, 1980, 1990 & 2000 & San Antonio-Bexar County Metropolitan Planning Organization, as of June 2009

The population in the project area is estimated to more than double by the year 2035

Historical Population Growth – US Census	
1990 – 2000 *Comal County*	110.2%
1990 – 2000 *Bexar County*	208.6%
1990 – 2000 *Total Growth*	169.5%
MPO Projected Growth	
2000 – 2035 *Comal County*	328.4%
2000 – 2035 *Bexar County*	200.5%
2000 – 2035 *Total Growth*	240.1%

History of Development Along US 281 in Bexar County

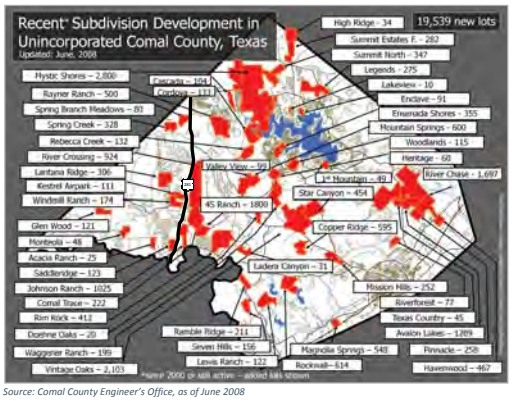


Source: City of San Antonio, as of July 2009

Growth of Residential Development Along US 281

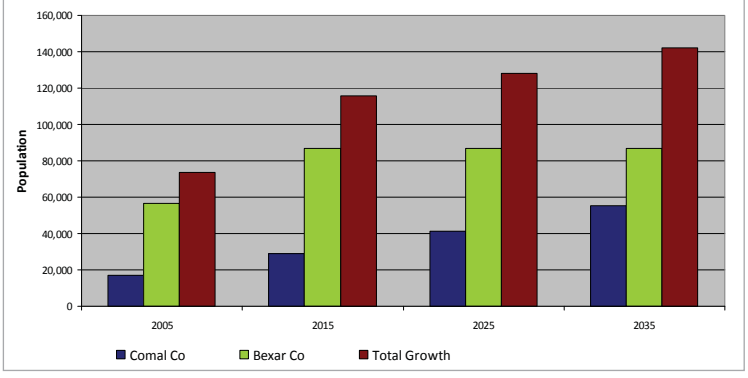
Number of New Lots * (Annual)		% Change
Comal County		
2004	3,301	
2008	9,602	
2004 to 2008 – Comal County		**190.9 %**
Bexar County		
2004	4,036	
2006	5,092	
2004 to 2006 – Bexar County		**26.1 %**

** Lots in Bexar County assume 2.19 lots per acre*
Source: City of San Antonio, as of 2006 & Comal County Engineer's Office, as of June 2008



Source: Comal County Engineer's Office, as of June 2008

Project Area Population by County



Source: US Census Bureau, 1970, 1980, 1990 & 2000, & San Antonio-Bexar County Metropolitan Planning Organization, as of June 2009

More than half of the growth by 2035 is expected to be in Comal County

Land Development in the US 281 Corridor - 1973

Source: Texas Natural Resources Information System

Land Development in the US 281 Corridor - 2009

Source: City of San Antonio

FUNCTIONALITY

Roadway Class and Function

Functional Class	Proportion of Service	Example
Freeways & Arterial Roadways	**Mobility** (Serving through traffic)	US 281
Collector Streets		Borgfeld Rd / Encino Rio
Local Streets	**Accessibility** (Serving local traffic)	Streets most people live on

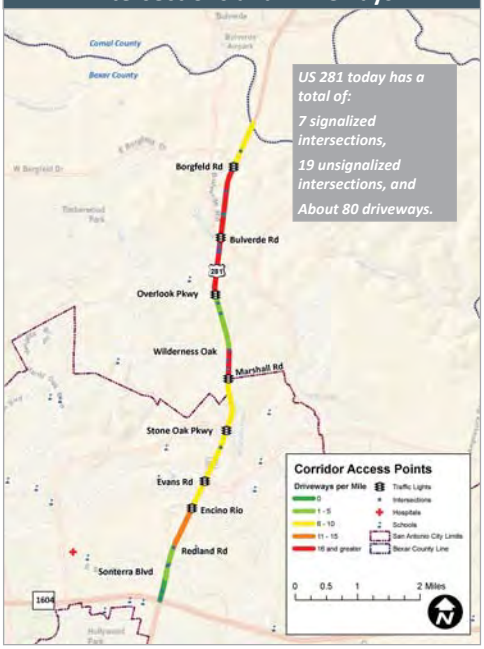
Source: FHWA Highway Capacity Manual, 2000

Roadway Functional Classes

Source: Texas Department of Transportation, Statewide Planning Map, 2009

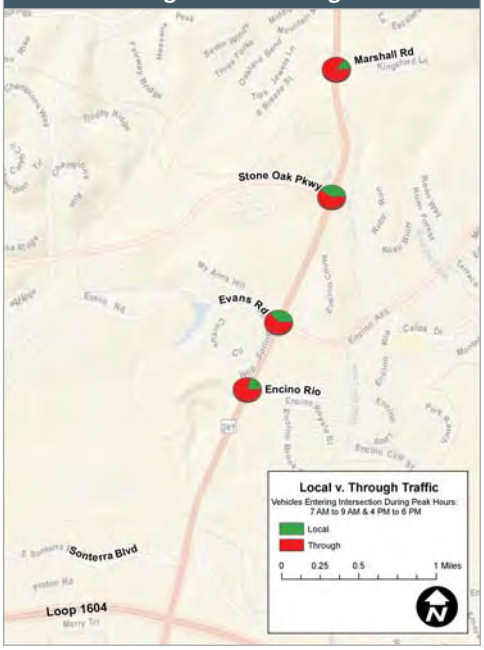
US 281 is classified as an arterial roadway to provide mobility through the corridor. However, recent land development trends have increased local traffic resulting in a conflict between mobility and accessibility.

Intersections and Driveways



Source: City of San Antonio, Aerial Image 2008

Local & Through Traffic during Peak Hours



Source: Alamo RMA, 281 Proposed Super Street Traffic Study, as of June 2009

Marshall Road		
Local	935	14%
Through	5,952	86%
Total	**6,887**	**100%**

Stone Oak Pkwy		
Local	4,785	41%
Through	6,985	59%
Total	**11,770**	**100%**

Evans Road		
Local	4,530	37%
Through	7,770	63%
Total	**12,300**	**100%**

Encino Rio		
Local	2,796	20%
Through	10,955	80%
Total	**13,751**	**100%**

FUNCTIONALITY

Level of Service **A**

Level of Service **B**

Level of Service **C**

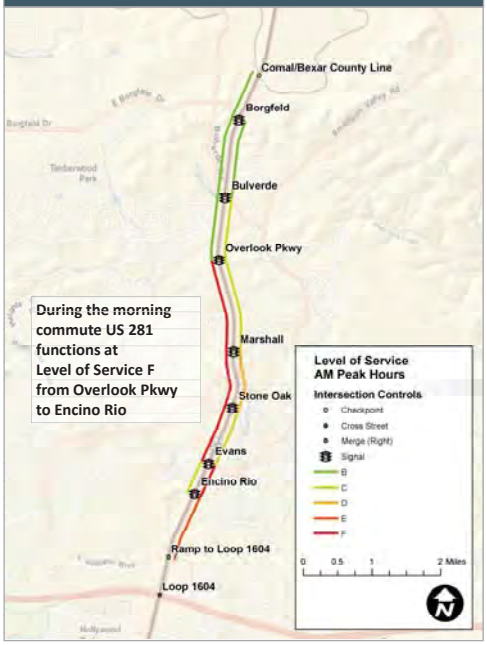
Level of Service **D**

Level of Service **E**

Level of Service **F**

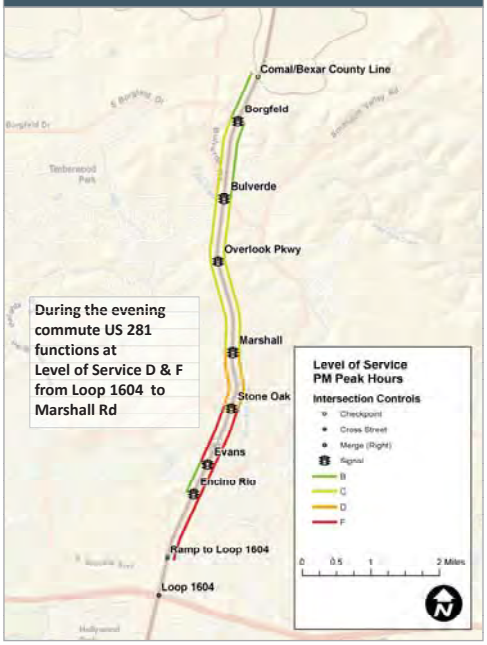
Source: FHWA Highway Capacity Manual, 2000

US 281 Level of Service – AM Peak



Source: US 281 EIS Study Team, Travel Time Study, May 2009

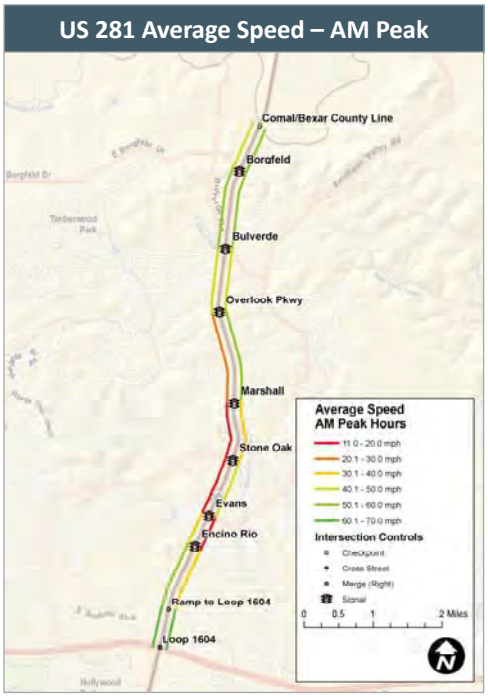
US 281 Level of Service – PM Peak



Source: US 281 EIS Study Team, Travel Time Study, May 2009

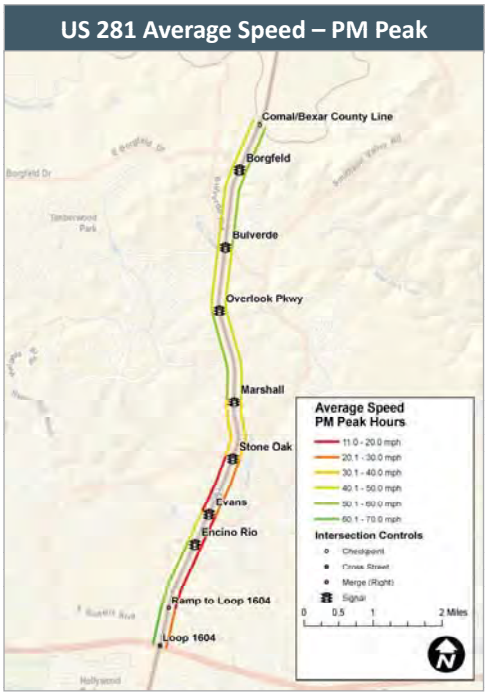
During Peak Hours US 281 experiences diminished Level of Service and slow Average Speed

US 281 Average Speed – AM Peak



Source: US 281 EIS Study Team, Travel Time Study, May 2009

US 281 Average Speed – PM Peak



Source: US 281 EIS Study Team, Travel Time Study, May 2009

Quality of Life

Walking Path Worn Into the Grass Along US 281, May 2009

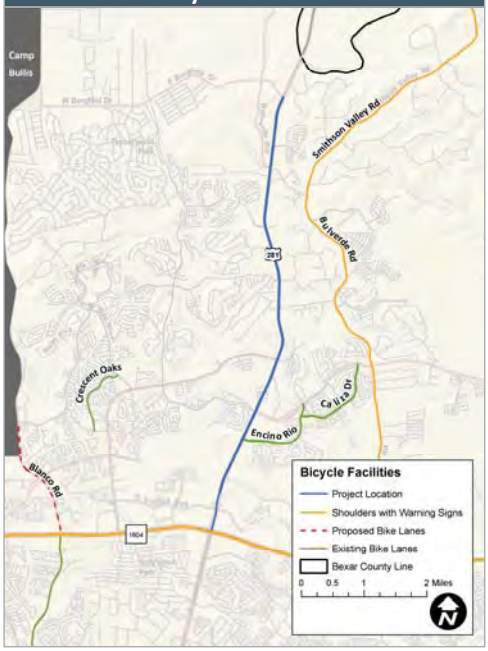
Residential Development in Close Proximity to US 281, August 2009

Traffic Signals are Designed for Cars, not Pedestrians, May 2009

VIA Bus Routes

Source: City of San Antonio, VIA, as of August 2008

Bicycle Facilities



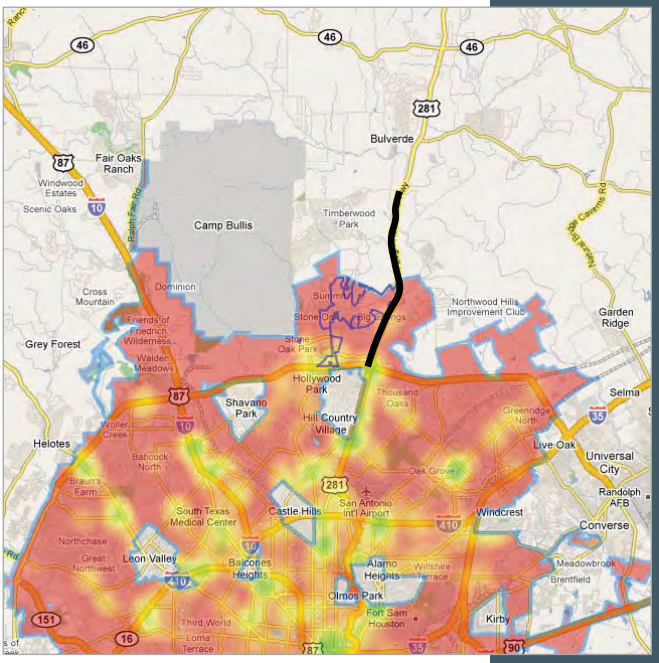
Source: City of San Antonio, as of January 2004

There are limited facilities for alternative modes of transportation along US 281

How "Walkable" *Is* the US 281 Corridor?			
Street	**Walk Score***	**Sidewalks**	**Crosswalk at US 281**
Borgfeld Rd	20	No	No
Bulverde Rd	9	No	Yes
Overlook Pkwy	6	Yes	No
Wilderness Oak	5	Yes	No
Marshall Rd	12	No	No
Stone Oak Pkwy	20	Yes	No
Evans Rd	25	Yes/Part	No
Encino Rio	55	Yes	No
Redland Rd	22	No	No
Sonterra Blvd	77	Yes/Part	Yes
City of San Antonio	45		

** Walk Score is out of 100 based on proximity to amenities.*

90 – 100	Most errands can be accomplished on foot and many people get by without owning a car.
70 – 89	It's possible to get by without owning a car.
50 – 69	Some stores and amenities are within walking distance, but many everyday trips still require a car.
25 – 49	Only a few destinations are within walking range. For most errands, driving is a must.
0 – 24	Virtually no neighborhood destinations are within walking range.



Source: www.walkscore.com & Google Maps, Street View, as of July 2009

Quality of Life

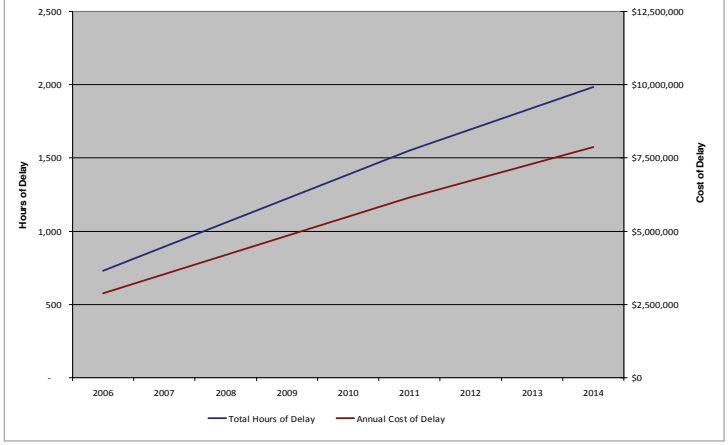
The annual hours of delay on US 281 and the cost of congestion are expected to increase 172% from 2006 to 2014

US 281 at 11:30 am on June 12, 2009

Southbound looking North

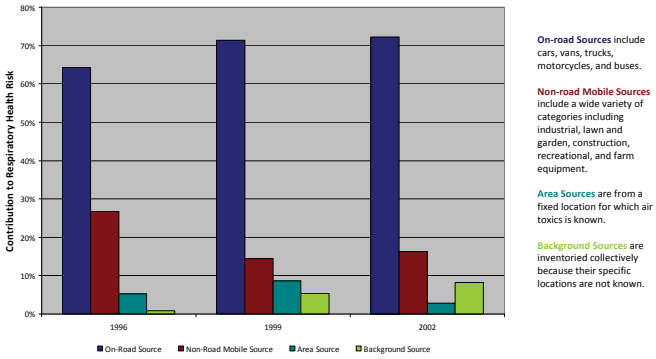
Southbound looking South

Annual Hours of Delay During AM/PM Peak Hours



Source: Alamo RMA, 281 Proposed Super Street Traffic Study, as of June 2009

Sources of Air Toxics Along the US 281 Corridor that Pose Potential Respiratory Health Risk



On-road Sources include cars, vans, trucks, motorcycles, and buses.

Non-road Mobile Sources include a wide variety of categories including industrial, lawn and garden, construction, recreational, and farm equipment.

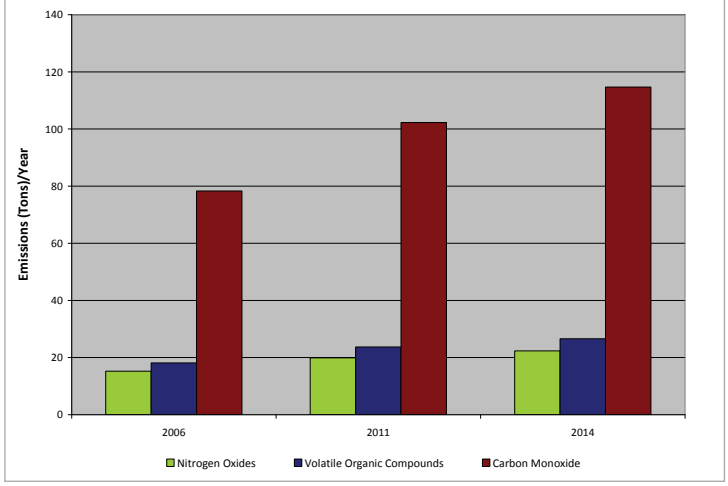
Area Sources are from a fixed location for which air toxics is known.

Background Sources are inventoried collectively because their specific locations are not known.

Source: EPA - National-Scale Air Toxics Assessment, 1996, 1999 & 2002

On-road vehicles are a substantial source of air toxics that pose potential respiratory health risk along US 281

Annual Total Emissions During AM/PM Peak Hours



Source: Alamo RMA, 281 Proposed Super Street Traffic Study, as of June 2009

Harmful On-Road emissions are expected to increase by 27% from 2006 to 2014

Total Annual Cost of Vehicle Emissions*

Emission Type	2006	2011	2014	Percent Change (2006-2014)
Nitrogen Oxides	$ 170,720	$ 223,122	$ 250,150	46.5%
Volatile Organic Compounds	$ 162,535	$ 212,376	$ 238,399	46.7%
Carbon Monoxide	$ 34,058	$ 44,483	$ 49,899	46.5%
Total	**$ 367,313**	**$ 479,981**	**$ 538,448**	**46.6%**

** Costs are calculated using expenses related to health, ecological, and aesthetic degradation*

Source: Alamo RMA, Super Street Traffic Study, as of June 2009 and Victoria Transport Policy Institute, 2006

Note: Future Emissions and Associated Costs are based on 2006 emission factors and do not reflect more recent policy incentives, such as the 'Cash for Clunkers' program, or technological advancement in the automotive industry that could reduce mobile sources of air pollution.

Total vehicle emissions cost along the US 281 corridor is expected to increase over 46% in health, ecological and aesthetic expenses by 2014

US 281 EIS
Public Involvement Over the Past Year

- **Public Scoping Meetings**
  - Public Scoping Meeting #1 – Need and Purpose for Improvements for US 281 (August 27, 2009)
    - Attended by 135 people
    - Final Meeting Report – Now Available!
  - Public Scoping Meeting #2 – Preliminary Alternatives (November 17, 2009)
    - Attended by 130 people
    - Final Meeting Report – In the Works!

- **Community Advisory Committee**
  - A Community Advisory Committee has been formed that is comprised of representative groups that live or work along the US 281 corridor to provide input and feedback for the development of long-term mobility solutions in the US 281 corridor. This group has met three times over the past year:
    - August 20, 2009
    - November 4, 2009
    - April 7, 2010

Members of the Community Advisory Committee include:

- Alamo Area Council of Governments
- Alamo Sierra Club
- Aquifer Guardians in Urban Areas
- BexarMet
- Big Springs Homeowners Association
- Camp Bullis/Fort Sam Houston
- Cavalo Creek Homeowners Association
- Cibolo Canyons Resort Community, Inc
- Comal County
- District 9 Neighborhood Alliance
- Emerald Forest Homeowners Association
- Encino Park Homeowners Association
- Greater Edwards Aquifer Alliance
- Greater San Antonio Builders Association
- Lookout Canyon Property Owners Association
- Methodist Stone Oak Hospital
- Mountain Lodge Homeowners Association
- North San Antonio Chamber of Commerce
- Northeast ISD
- Professional Engineers in Private Practice
- Real Estate Council of San Antonio
- San Antonio Toll Party
- San Antonio Water System
- Stone Oak Business Owners Association
- Stone Oak Property Owners Association
- Summerglen Homeowners Association
- Texans Uniting for Reform and Freedom
- Timberwood Park
- VIA Metropolitan Transit Authority

- **Peer Technical Review Committee**
  - The Federal Highway Administration, the Alamo Regional Mobility Authority and the Texas Department of Transportation have created a Peer Technical Review Committee to provide a range of expertise at key coordination points throughout the EIS process. This group has met two times over the past year:
    - November 10, 2009
    - March 25, 2010

Members of the Peer Technical Review Committee include:

- Federal Highway Administration
- Alamo Regional Mobility Authority
- Texas Department of Transportation
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- Texas Parks and Wildlife Department
- Texas Commission on Environmental Quality
- Edwards Aquifer Authority
- Bexar County
- San Antonio – Bexar County Metropolitan Planning Organization
- VIA Metropolitan Transit
- San Antonio Water System
- City of San Antonio

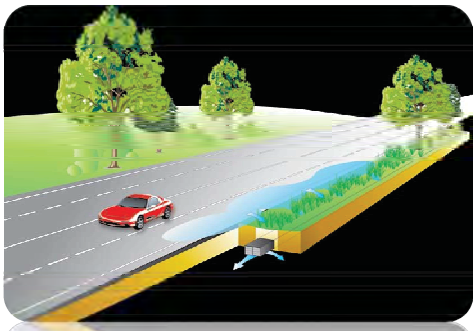
WHAT ARE THOSE BLACK BOXES HOLDING UP THE EXHIBITS?

Stormwater Management


Rain Tanks – used at US 281 Public Scoping Meetings 1 & 2

They're called "**Rain Tanks**", used to create underground, modular infiltration systems that aid in managing stormwater run-off, reducing pollutants entering surface waters, recharging local aquifers and relieving pressure on existing stormwater systems.

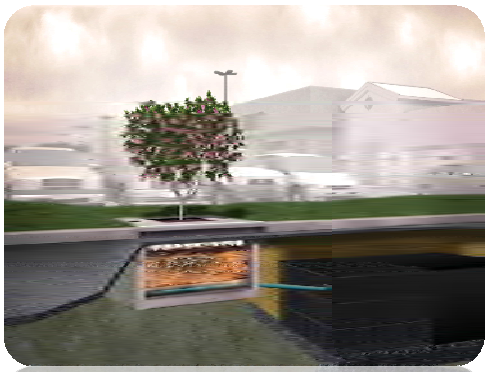
In addition to the environmental benefits, this filtration system is underground, creating more useable surface area and an enhanced aesthetic setting compared to typical aboveground concrete structures and stormwater ponds. Rain Tanks are an example of a highly efficient option for stormwater management and low impact, cost effective development.


Rain Tanks – used in road construction

Benefits of Rain Tanks

- Flexible & Lightweight
- Strong & Durable Structure
- Environmentally Friendly
- Cost Effective
- Maintenance Free Tank
- High Infiltration
- Alleviates Mosquito Infestation

These Rain Tanks were generously donated by ***Construction Eco Services*** to use for the US 281 EIS public meeting displays. After the public meetings this evening, the Rain Tanks will be used at San Antonio project sites to provide stormwater management and improved water quality.


Rain Tanks – used in commercial parking lot setting

ALTERNATIVE 1: OVERPASS/EXPANSION

RECOMMENDED REASONABLE ALTERNATIVES TO BE CARRIED FORWARD INTO DRAFT EIS

US 281 and Evans Rd

ALTERNATIVE 1:
OVERPASS / EXPANSION
(NON-TOLL)

Preliminary and Subject to Change

US 281 and Marshall Rd

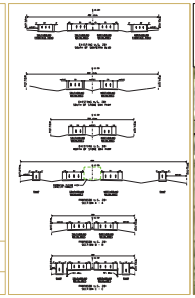
ALTERNATIVE 1:
OVERPASS / EXPANSION
(NON-TOLL)

Preliminary and Subject to Change

ALAMO REGIONAL MOBILITY AUTHORITY
CONCEPTUAL LAYOUT

N-1329

ALTERNATIVE 1 - OVERPASS/EXPANSION



ALTERNATIVE 2: EXPRESSWAY

RECOMMENDED REASONABLE ALTERNATIVES TO BE CARRIED FORWARD INTO DRAFT EIS

US 281 and Evans Rd

ALTERNATIVE 2: EXPRESSWAY (NON-TOLL, TOLL, MANAGED)

Preliminary and Subject to Change

US 281 and Marshall Rd

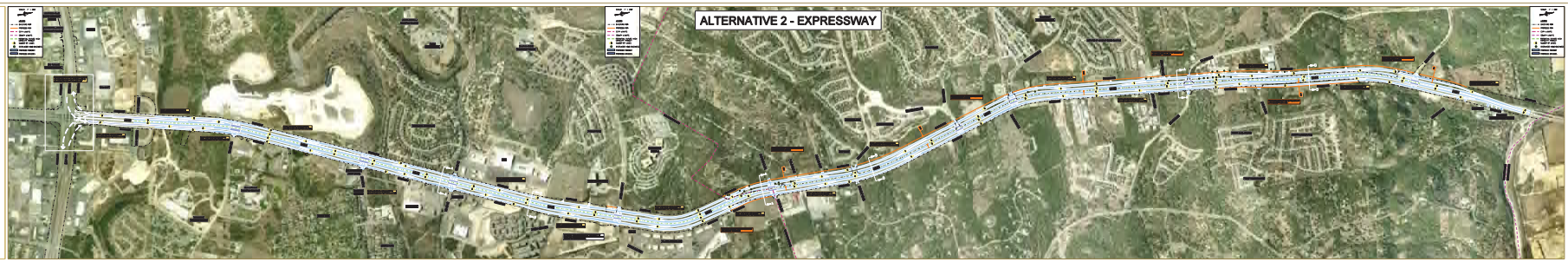
ALTERNATIVE 2: EXPRESSWAY (NON-TOLL, TOLL, MANAGED)

Preliminary and Subject to Change

ALAMO REGIONAL MOBILITY AUTHORITY
CONCEPTUAL LAYOUT

ALTERNATIVE 2 - EXPRESSWAY

N-1332



ALTERNATIVE 3: ELEVATED EXPRESSWAY

N-1333

RECOMMENDED REASONABLE ALTERNATIVES TO BE CARRIED FORWARD INTO DRAFT EIS

US 281 and Evans Rd

ALTERNATIVE 3:
ELEVATED EXPRESSWAY
(NON-TOLL, TOLL, MANAGED)

Preliminary and Subject to Change

US 281 and Marshall Rd

ALTERNATIVE 3:
ELEVATED EXPRESSWAY
(NON-TOLL, TOLL, MANAGED)

Preliminary and Subject to Change

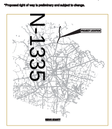
ALAMO REGIONAL MOBILITY AUTHORITY
CONCEPTUAL LAYOUT

US 281 - EIS
SAN ANTONIO, TEXAS
BEXAR COUNTY

ALTERNATIVE 3 – ELEVATED EXPRESSWAY

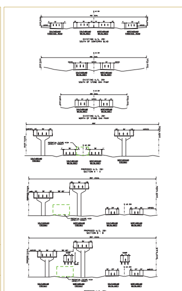
Additional Right of Way required: *Source: US 281 EIS team*	95 Acres
Average Peak Hour Speed in 2035: *Source: MPO Travel Demand model and US 281 EIS team*	45 mph
Vehicles/Day in 2035 (north of Sonterra): *Source: MPO Travel Demand model and US 281 EIS team*	160,000 - 170,000

*Proposed right of way is preliminary and subject to change.



ALAMO RMA
Alamo Regional Mobility Authority
"Moving people faster"

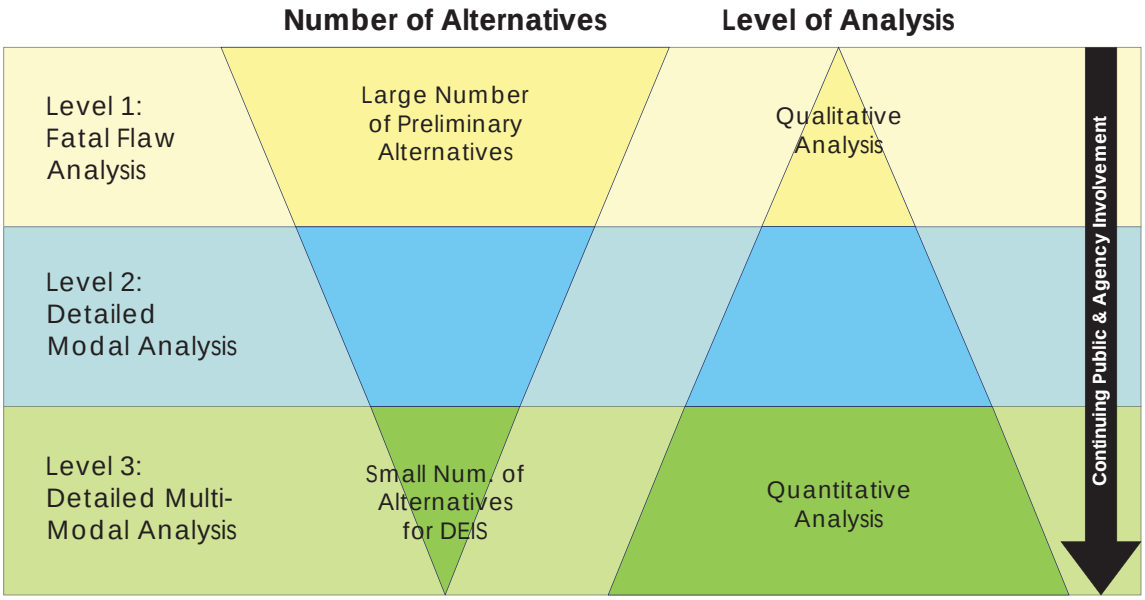
JACOBS
JACOBS ENGINEERING GROUP INC. FIRM #2966



HOW DO THE ALTERNATIVES COMPARE TO EACH OTHER?

ALTERNATIVES DEVELOPMENT AND SCREENING PROCESS

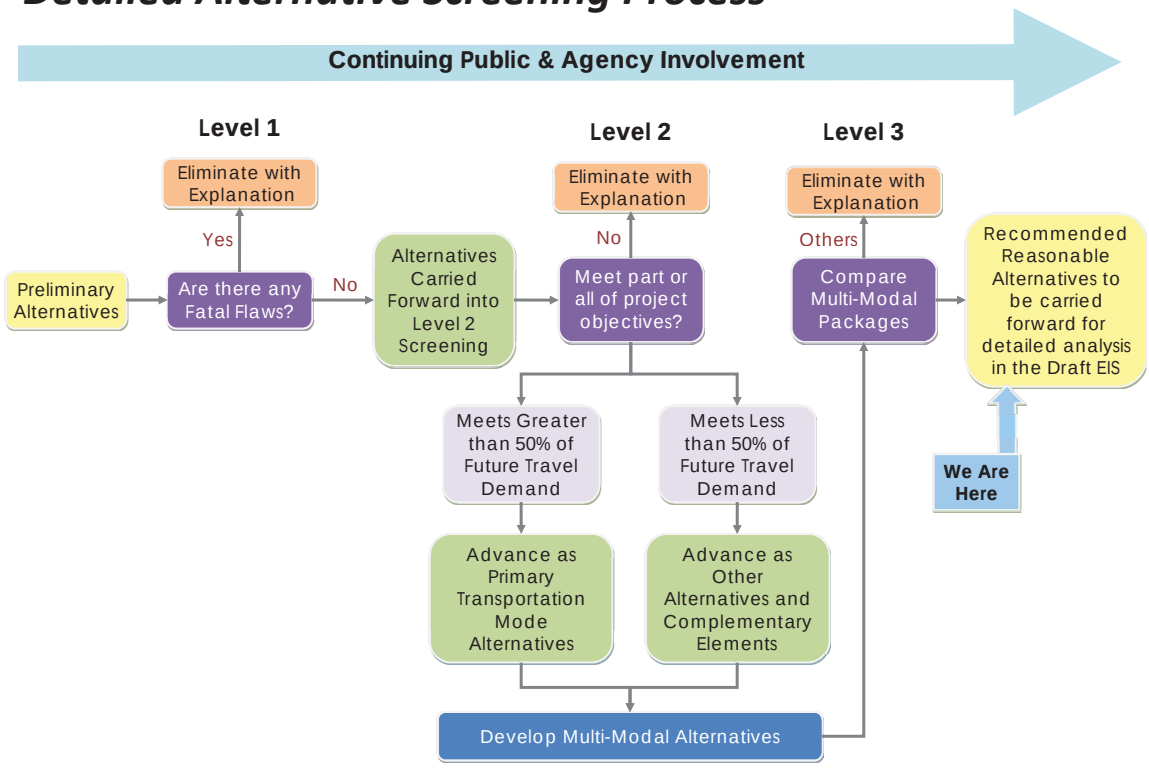
Alternatives Evaluation Process



Level 1: Presented in November 2009 to the Peer Technical Review Committee, Community Advisory Committee, and the Public Scoping Meeting

Level 2 & Level 3: Presented on March 25th to the Peer Technical Review Committee, on April 7th to the Community Advisory Committee, and at Tonight's Meeting

Detailed Alternative Screening Process



ALTERNATIVES SCREENING PROCESS

Level 1: Fatal Flaw Analysis (Qualitative)

- Evaluate Alternatives for Fatal Flaws:
  - Mode not compatible with regional plans
  - Unproven technology
  - Major adverse impacts

Level 2: Detailed Modal Analysis (Quantitative)

- Evaluation based on quantitative measures may include:
  - Capacity and demand
  - Safety improvement
  - Travel time improvement
  - Engineering feasibility
- Alternatives grouped as primary and complementary transportation modes

Level 3: Detailed Multi-Modal Analysis (Quantitative)

- Combine primary and complementary transportation modes to form comprehensive solutions
- Detailed evaluation/comparison of multi-modal alternatives using additional criteria such as:
  - Right-of-way requirements
  - Relocation and displacements
  - Cost effectiveness
  - Environmental considerations
- Recommendation of a set of reasonable alternatives for evaluation in the Draft EIS

All Reasonable Draft EIS Expressway Improvement Alternatives will be analyzed for both Non-Toll and Toll effects

LEVEL 1 EVALUATION CRITERIA AND RESULTS

Alternatives Evaluation Criteria

- Based on fatal flaws:
  - Mode not compatible with regional plans
  - Unproven technology
  - Major adverse impacts

Alternatives Carried Forward into Level 2 Evaluation

- No Build – Retained as a baseline for comparison in the Draft EIS
- Transit Alternatives
  - Light Rail
  - Streetcars
  - Fixed Route Bus
  - Express Bus Service
  - Bus Rapid Transit (BRT)
- Highway Improvement Alternatives
  - Add lanes to existing US 281 (no overpasses)
  - Grade separated intersections
  - Widen Blanco Road and Bulverde Road
  - Upgrade existing US 281 to an Expressway
  - High Occupancy Vehicle (HOV) / High Occupancy Toll (HOT) Lanes
- Other Alternatives
  - Growth Management
  - Bike and Pedestrian Facilities
  - Transportation System Management (TSM)
  - Transportation Demand Management (TDM)

Alternatives Considered and Eliminated

- Heavy Rail
  - Not compatible with regional plans
- Commuter Rail
  - Not compatible with regional plans
- Automated Guideway Transit
  - Speed and service distance not satisfactory
  - Not compatible with regional plans
- Personal Rapid Transit
  - Not a proven technology
  - Not compatible with regional plans
- New Parallel Corridor
  - High adverse impacts

LEVEL 2 EVALUATION CRITERIA AND RESULTS

Alternatives Evaluation Criteria

- Based on the ability to:
  - Reduce conflict between local and through traffic
  - Improve system connectivity
  - Reduce crash rates

Alternatives Carried Forward into Level 3 Evaluation

- No Build – Retained as a baseline for comparison in the Draft EIS
- Primary Alternatives – Satisfy at least 50% of forecasted travel demand
  - Upgrade US 281 to an Expressway
- Other Alternatives - Not eliminated but do not satisfy 50% of forecasted travel demand
  - Add lanes to existing US 281 (no overpasses)
  - Grade separated intersections
  - Widen Blanco Road and Bulverde Road

Complementary Elements *- To be considered as part of all Build Alternatives*

- Bus & Park-and-Ride Facilities
- Bike & Pedestrian Facilities
- Growth Management
- Transportation System Management
- Transportation Demand Management

Alternatives Considered and Eliminated

- Light Rail and Streetcar
  - No existing system for connectivity south of Loop 1604
  - High cost to connect to possible future light rail/streetcar system south of Loop 1604
  - Relatively low existing and forecasted (2035) population and employment density north of Loop 1604
  - VIA Coordination
    - Build Alternatives to maintain opportunity for future addition of high-capacity transit
    - One or more Park-and-Ride locations with Bus service to be included in Build Alternatives

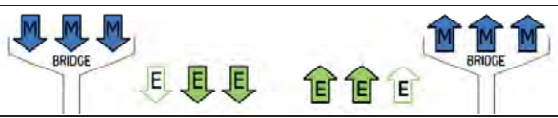
LEVEL 3 DETAILED MULTI-MODAL ANALYSIS

Level 3 - Build Alternatives

Overpass/Expansion (Non-Toll)		**Complementary Elements**
		• Bus, Park-and-Ride Facilities
		• Bike and Pedestrian Facilities
		• Growth Management*
		  • Encourage Higher Density Inside Loop 1604
		  • Promote Infill Development Inside Loop 1604
		  • Support Mixed Use Development Inside Loop 1604
		• Transportation System Management*
		  • Park-and-ride lots
		  • Intersection Improvements
		• Transportation Demand Management*
		  • Flexible Work Hours
		  • Carpooling/Vanpooling
		  • Telecommuting
		* As adopted in Mobility 2035, SA-BC MPO

Overpass/Expansion + Widen Blanco Road and Bulverde Road (Non-Toll)		
Expressway	Non-Toll	
	Toll	
	Managed	
Elevated Expressway	Non-Toll	
	Toll	
	Managed	

Level 3 - Alternatives: Lane Diagrams

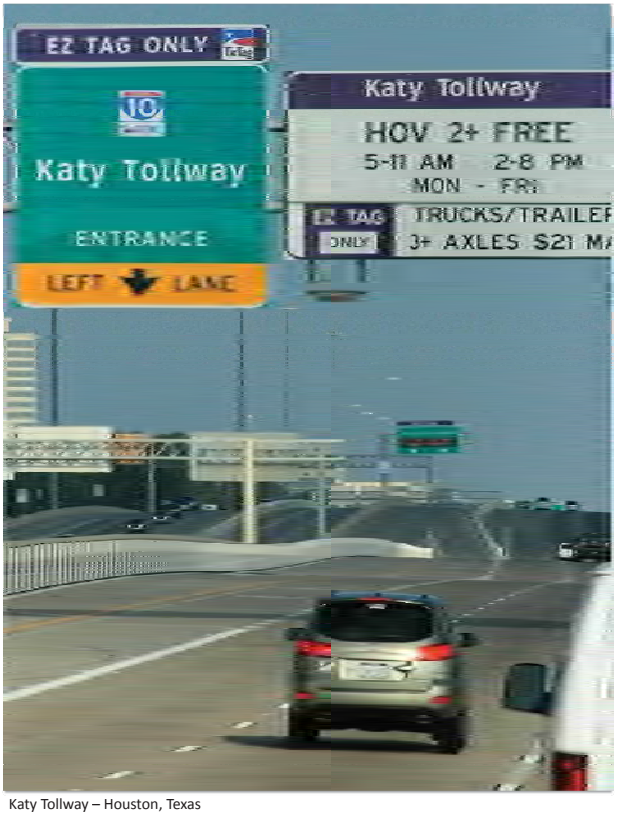
NO BUILD (Includes Super Street Improvements and LOOP 1604/US 281 Southern Direct Connectors)		
OVERPASS/EXPANSION (Non-Toll) (Access solutions are required)		
OVERPASS/EXPANSION + WIDEN BLANCO ROAD & BULVERDE ROAD (Non-Toll) (Access solutions are required)		
EXPRESSWAY	NON-TOLL	
	TOLL	
	MANAGED	
ELEVATED EXPRESSWAY (Access solutions are required) Note: The elevated lanes would be located outside of the existing US 281 lanes from Loop 1604 to Stone Oak Parkway. North of Stone Oak Parkway, the elevated lanes would transition to the west side of existing US 281 and remain on the west side to Borgfeld Road.	NON-TOLL	
	TOLL	
	MANAGED	

Blanco/Bulverde Rd Existing Lane Frontage Road Lane

Toll Lane General Purpose Lane Managed Lane

HOW ARE MANAGED LANES DIFFERENT FROM TOLL LANES?

- Toll Lanes – Lanes on which vehicles, not exempted by state law, must pay to use
- Managed Lanes – An operational approach to managing lanes. Lanes can be free or have tolls based on certain conditions such as:
  - –Number of persons per automobile
    - single occupant vehicles
    - multi occupant vehicles
  - –Vehicle type
    - Bus
    - Emergency vehicle
    - Motorcycle
    - Automobile
    - Larger trucks
  - –Time of day and week
  - –Combination of any of the above



Katy Tollway – Houston, Texas

WOULD REVERSIBLE LANES WORK ON US 281?

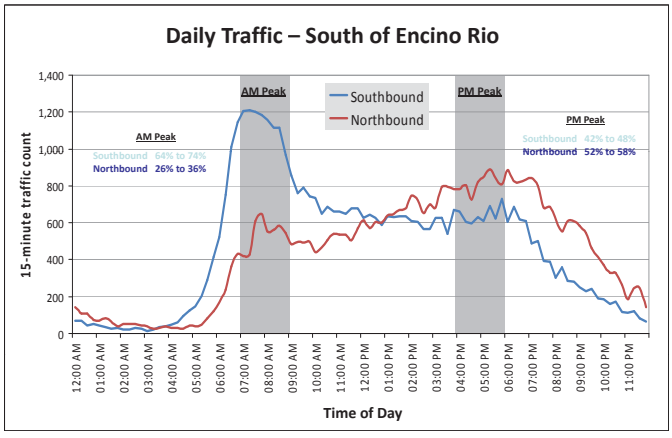
Lee Roy Selmon Crosstown Expressway - Tampa, FL

- A Reversible Lane is a lane on which the direction of traffic can change to accommodate traffic during peak times.
  - For example in the morning a reversible lane on US 281 might flow towards San Antonio, but towards Comal County in the afternoon.
- On US 281 the directional split is the distribution of traffic flows northbound versus southbound.
- Highways with more than 60% of vehicles going in the same direction during a peak period are good candidates for reversible lanes.
- On US 281, the directional split during peak hours was recorded to be:

	Northbound (Inbound)	Southbound (Outbound)	Reversible Candidate
AM Peak (7 to 9 am)	64% to 74%	26% to 36%	Yes
PM Peak (4 to 6 pm)	42% to 48%	52% to 58%	No

Source: US 281 EIS Team (February 2010)

- The AM peak may support reversible lanes, but the traffic during the PM peak is more balanced. Therefore, reversible lanes were not considered further for US 281.



Source: US 281 EIS Team (February 2010)

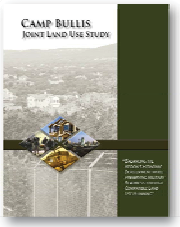
Level 3 Evaluation Criteria and Results

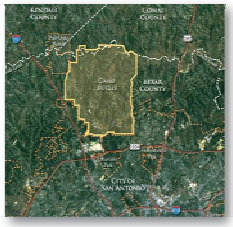
Is the alternative compatible with the MPO Plan?

Alternative	Yes	No
No Build		×
Overpass/Expansion		×
Overpass/Expansion + Widen of Blanco Rd and Bulverde Rd		×
Expressway (Non Toll)		×
Expressway (Toll)	✓	
Expressway (Managed)		×
Elevated Expressway (Non Toll)		×
Elevated Expressway (Toll)	✓	
Elevated Expressway (Managed)		×

Note: If a build alternative is selected, the MPO Plan and the Build Alternative must be consistent for a Record of Decision to be issued.

Is the alternative compatible w/ Camp Bullis operations?





Alternative	Yes	Somewhat	No
No Build	✓		
Overpass/Expansion	✓		
Overpass/Expansion + Widen Blanco Rd and Bulverde Rd			×
Expressway		✓	
Elevated Expressway		✓	

Will it be easy to provide for high capacity transit in the future?

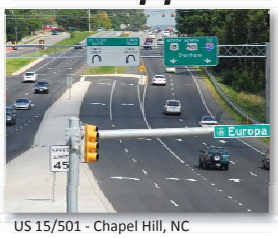
Houston, Texas

Denver, Colorado

Alternative	Yes	No
No Build		×
Overpass/Expansion		×
Overpass/Expansion + Widen Blanco Rd and Bulverde Rd		×
Expressway	✓	
Elevated Expressway	✓	

What could happen to the Super Street?

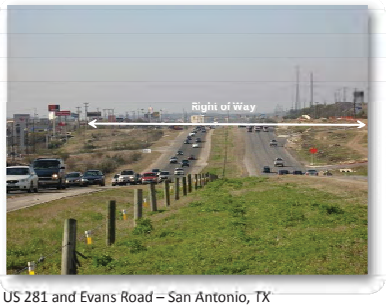
Super Street at Stone Oak Pkwy – San Antonio, TX



US 15/501 - Chapel Hill, NC

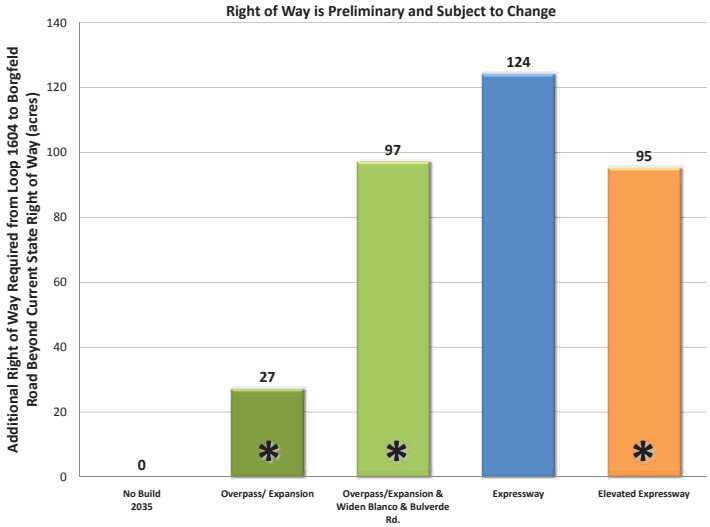
Alternative	Retained	Partially Retained	Eliminated
No Build	✓		
Overpass/Expansion			×
Overpass/Expansion + Widen Blanco Rd and Bulverde Rd			×
Expressway			×
Elevated Expressway		✓	

How much additional right of way could be required?



US 281 and Evans Road – San Antonio, TX

✱ Additional Right of Way may be required for access solutions

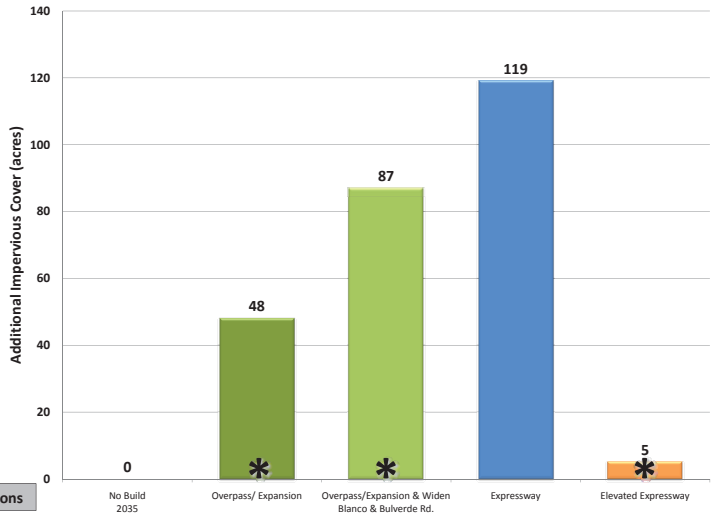


Source: US 281 EIS Team

LEVEL 3 EVALUATION CRITERIA AND RESULTS

How much additional impervious cover could there be if this alternative was built?

US 281- San Antonio, Texas

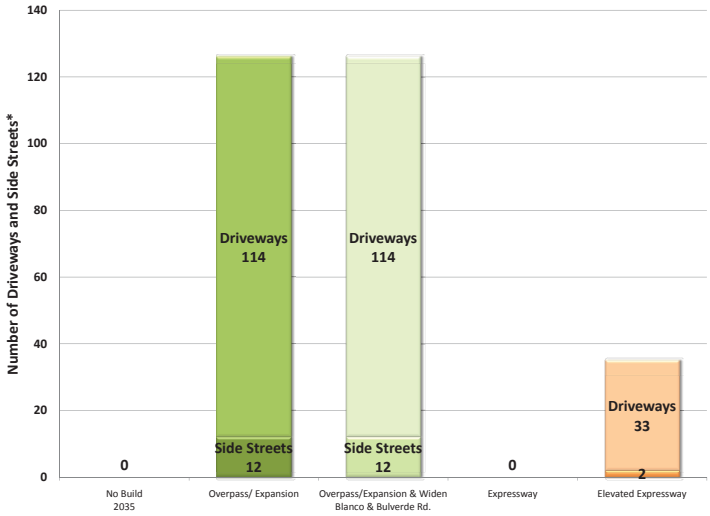


* Additional Right of Way may be required for access solutions

Source: US 281 EIS Team

How many driveways and side streets could lose access?

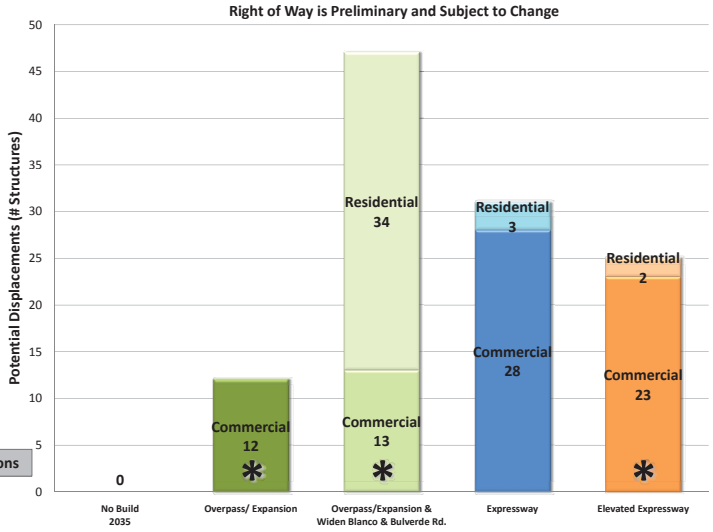
US 281 near Evans Road – San Antonio, TX



* These numbers are preliminary and are subject to change based on access solutions

Source: US 281 EIS Team

How many homes and businesses could be displaced?



* Additional Right of Way may be required for access solutions

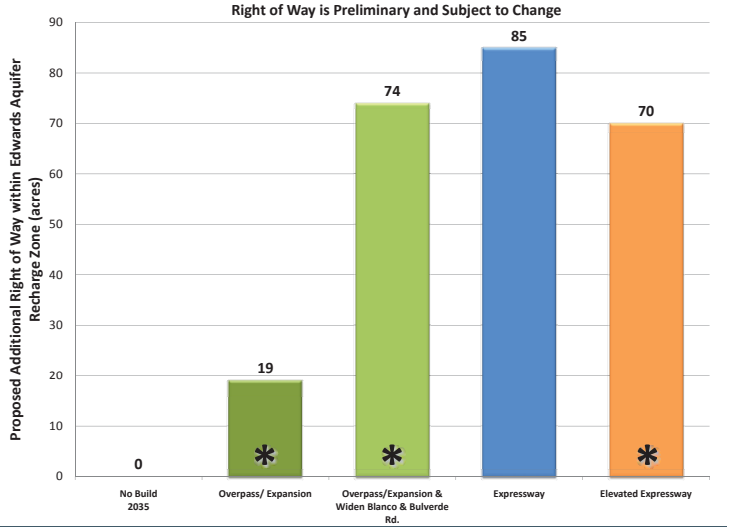
Source: US 281 EIS Team

LEVEL 3 EVALUATION CRITERIA AND RESULTS

How much additional right of way could be within the Edwards Aquifer Recharge Zone?

✱ Additional Right of Way may be required for access solutions

Source: Texas Commission on Environmental Quality and US 281 EIS Team

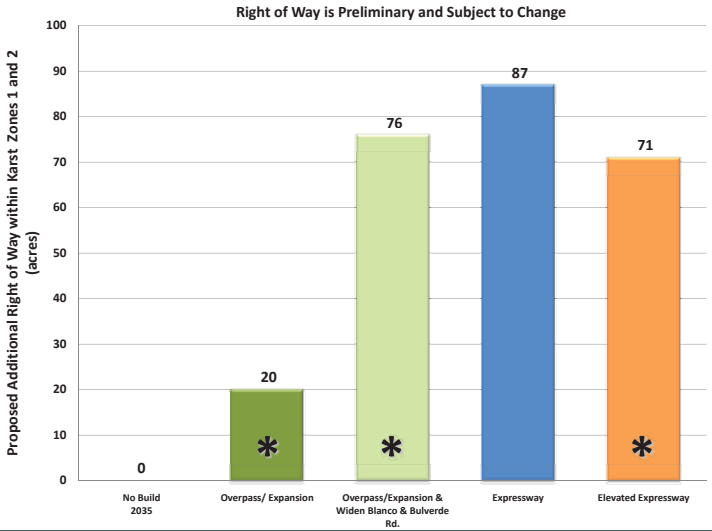


How much additional right of way could be within sensitive karst zones?

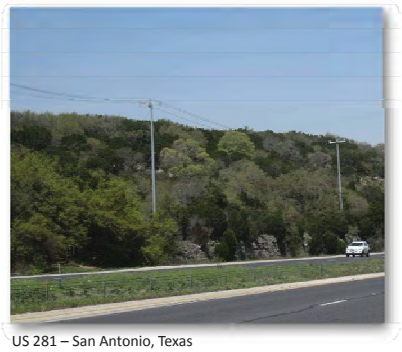
Cave near Medina Lake, Texas

✱ Additional Right of Way may be required for access solutions

Source: US Fish and Wildlife Service and US 281 EIS Team



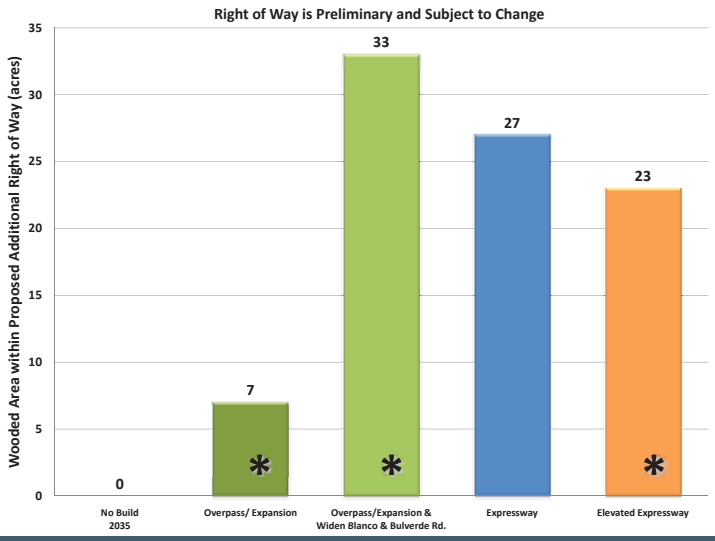
How many additional wooded acres could be in the Right of Way?



US 281 – San Antonio, Texas

✱ Additional Right of Way may be required for access solutions

Source: US 281 EIS Team

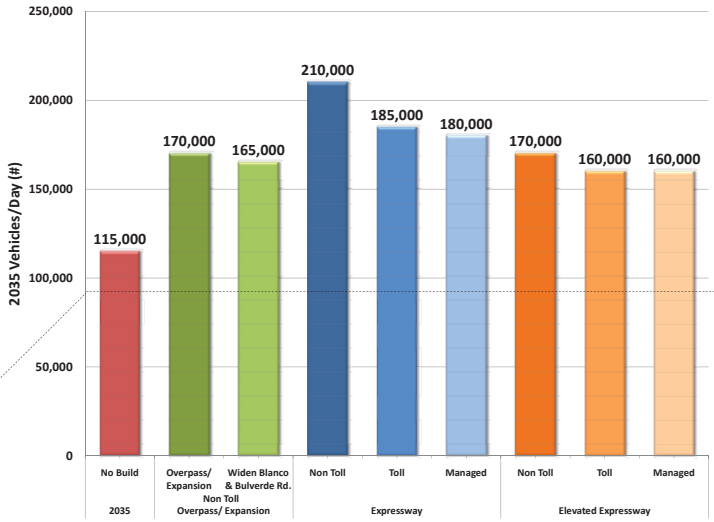


LEVEL 3 EVALUATION CRITERIA AND RESULTS

How many vehicles/day could be on US 281 in 2035?

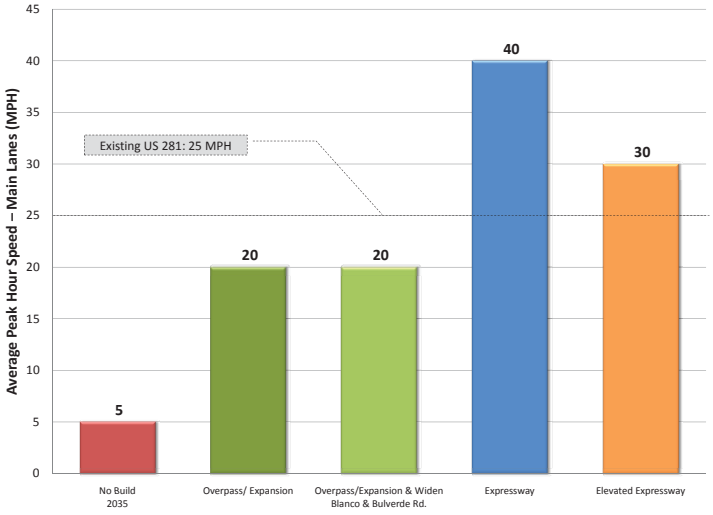
US 281 and Evans Road – San Antonio, TX

Existing US 281 near Encino Road: 90,000 Vehicles Per Day



Source: MPO Travel Demand Model and US 281 EIS Team

What could be the average vehicle speed on US 281 in 2035?

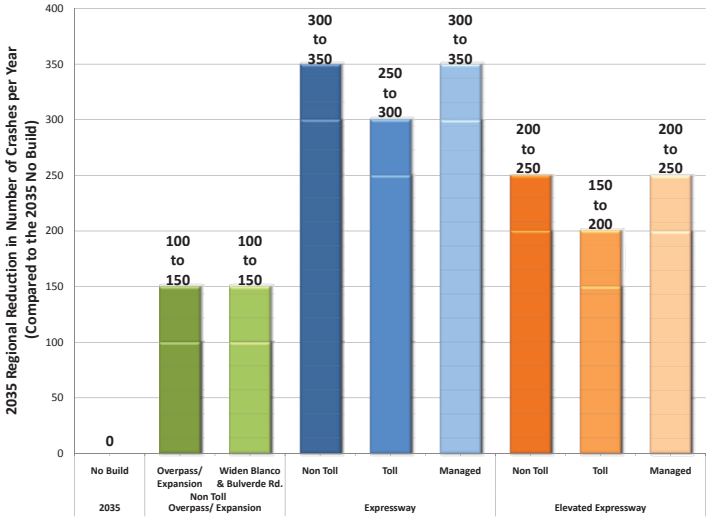


Source: MPO Travel Demand Model and US 281 EIS Team

How many crashes in the region could be reduced in 2035?

Colorado Springs, Colorado

Note: The MPO Region includes: Bexar County



Source: MPO Travel Demand Model and US 281 EIS Team

POPULATION AND AVERAGE DAILY TRAFFIC (ADT)

- Population growth along US 281
  - 2000 population 41,823
    (Source: US Census Bureau)
  - Estimated 2008 population 86,505
  - Percent Growth (2000 – 2008) ~ 107%
  - Projected 2035 population 142,240
  - Percent Growth (2008 – 2035) ~ 64%
    (Source: MPO Demographic Forecasts)

- Increase in population leads to increased traffic
  - 2010 ADT 90,000 vehicles
    (South of Encino Rio, Source: Feb 2010 Traffic Counts, US 281 EIS Team)
  - 2035 ADT (No-Build Alternative) 115,000 vehicles
  - 2035 ADT (Build Alternatives) 160,000 to 210,000 vehicles
    (North of Sonterra Road, Source: MPO Travel Demand Model and US 281 EIS Team)

- Increased traffic levels lead to reduced speeds and more congestion during peak hours*
  - 2008 peak hour speed ~ 25 mph
  - 2035 peak hour speed (No-Build Alternative) ~ 5 mph
  - 2035 peak hour speed (Build Alternatives) ~ 20 - 45 mph
    (Source: MPO Travel Demand Model and US 281 EIS Team)

** Lower speeds would generally occur in the southern area near Loop 1604 due to higher traffic volumes. Higher speeds would occur in the northern area near Borgfeld Road due to lower traffic volumes*

Level 3 - Alternatives Evaluation Criteria and Results*

Reference #	Level 3 Criteria	Metrics	Existing	Alternatives 2035									
				No Build	Overpass/ Expansion	Overpass/Expansion & Widen Blanco Rd. and Bulverde Rd.	Expressway			Elevated Expressway			
							Non Toll	Toll	Managed	Non Toll	Toll	Managed	
	Regional Goals, Policies & Other Items												
1	Compatibility with Regional Plans	2035 Metropolitan Transportation Plan	N/A	No	No	No	No	Yes	No	No	Yes	No	
2		VIA Comprehensive Plan	N/A	TBD	TBD	TBD		TBD			TBD		
3	Camp Bullis mission	Potential to avoid adverse effects	N/A	Yes	Yes	No		Somewhat			Somewhat		
4	Future Mainline Capacity Expansion	Ease of expansion in the future	N/A	Somewhat	No	No		Yes			Yes		
5	Future High Capacity Transit Potential (Light Rail/Street Car)	Ease of implementation in the future	N/A	No	No	No		Yes			Yes		
6	Superstreet Preservation	Eliminated or Retained	N/A	Retained		Eliminated		Eliminated			Partially retained		
	Measures of Effectiveness - Daily (corridor / regional) (2008 and 2035 for No Build, 2035 for all Build Alternatives)												
7	Average Peak Hour Speed (mph) - Corridor	U.S. 281 Corridor - All Lane Types	25	5	20	20		40			30		
		U.S. 281 Corridor - Mainlanes only	25	5	20	20		45			45		
8	Average Daily Traffic (000s)	South of Bulverde - U.S. 281 Corridor	40	75	120	105	130	120	120	125	115	115	
		South of Bulverde - Blanco + Bulverde	20	45	30	40	20	25	25	20	25	25	
		North of Sonterra - U.S. 281 Corridor	90	115	170	165	210	185	180	170	160	160	
		North of Sonterra - Blanco + Bulverde	40	110	90	100	70	85	85	90	95	95	
9	LOS along U.S. 281 Corridor - Percent of Centerline miles	LOS A, B, C, or D	10%	5%	20%	35%		70%			60%		
		LOS E	0%	0%	20%	5%		15%			10%		
		LOS F	90%	95%	60%	60%		15%			30%		
10	LOS along Parallel Facilities (Bulverde and Blanco) - Percent of Centerline miles	LOS A, B, C, or D	65%	5%	5%	45%		50%			30%		
		LOS E	10%	0%	55%	5%		10%			25%		
		LOS F	25%	95%	40%	50%		40%			45%		
11	Daily Miles of Travel - Regional	Change in Vehicle Miles of Travel (VMT) compared to 2035 No Build- (000s)	N/A	0	40	-40	-140	-110	-200	-110	-90	-160	
12	Daily Hours of Travel - Regional	Change in Vehicle Hours of Travel (VHT) compared to 2035 No Build- (000s)	N/A	0	-80	-90	-100	-100	-130	-80	-80	-110	
	Safety & Functionality												
13	Crash Reduction as compared to No Build - Regional (2035)	Annual Reduction in crashes (region)	N/A	0	100-150	100 - 150	300 - 350	250 - 300	300 - 350	200 - 250	150 - 200	200 - 250	
14	Exposure to existing conflict points (# of driveways along roadway type) - U.S. 281 Corridor	Frontage Roads	0	0	9	9		142			0		
		Principal Arterial	142	142	32	32		0			122		
		Ramps	0	0	101	101		0			20		
15	Approximate number of driveways and side streets that would potentially need to be removed or realigned	Side Streets	0	0	12	12		0			2		
		Driveways	0	0	114	114		0			33		
16	Future Conflict Potential - U.S. 281 Corridor	Potential for future addition of conflict points (driveways/intersections) along mainlanes	Yes	Yes	Yes	Yes	No	No	No	No	No	No	
	Environment (This data results from a preliminary desktop analysis, the environmental field surveys will be completed during the preparation of the Draft EIS.)		**Existing ROW (U.S. 281)**			**Existing ROW (U.S. 281, Blanco Rd. & Bulverde Rd.)**							
17	Right-of-Way (ROW)	# of acres of additional ROW required	0	0	27	97	0	124			95		
		# of total acres of ROW (existing ROW + proposed ROW)	318	318	345	573	476	442			413		
18	Karst Zones	# of acres within Karst Zone 1	164	164	180	292	235	229			219		
		# of acres within Karst Zone 2	106	106	110	154	135	128			122		
19	Karst Invertebrate Critical Habitat	Proximity to Critical Habitat Units (feet)	575	575	575	575	575	575			575		
20	Edward's Aquifer Recharge Zone	# of acres within Recharge Zone	268	268	287	446	372	353			338		
21	Displacements (based on 2009 Aerials)	# of potential residential displacements	0	0	0	34	0	3			2		
		# of potential commercial building displacements	0	0	12	13	0	28			23		
22	Historic Properties	# of properties listed on the National Register of Historic Places (within 150-ft of ROW)	0	0	0	0	0	0			0		
23	Archaeological Resources	# of acres with an elevated potential for archeological resources	94	94	105	182	142	148			137		
24	Wildlife Habitat	# of wooded acres within existing and proposed ROW	15	15	22	50	17	42			38		
25	Hazardous Materials	# of known hazardous material sites	0	0	0	0	0	0			0		
26	Air Quality	Change in annual volatile organic compounds (VOC) estimated along U.S. 281 Corridor compared to 2035 No Build (tons)	N/A	0	-45	-52	0	-67	-81	-81	-57	-65	-58
27	Streams	# of stream crossings	8	8	8	17	17	8			8		
		# of linear feet	6,072	6,072	6,495	9,260	7,793	7,207			6,652		
28	Traffic Noise (based on 2009 Aerials)	# of noise receivers within 500 feet of ROW (Category B)	182	182	189	976	875	247			226		
29	Floodplains	# of acres within the 100-year floodplain	21	21	23	59	43	21			21		
30	Impervious Cover	# of additional acres of impervious cover	0	0	48	87	0	119			5		
		# of total acres of impervious cover	105	109	157	272	185	228			114		
	Cost												
31	Total Cost (construction, right-of-way, utilities, etc.)	$ Million	N/A	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
32	25-year Routine and Lifecycle Maintenance Costs	$ Million	N/A	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD

* Note: This overview assessment was prepared for the purpose of screening the alternatives. The information presented in this table is preliminary and subject to change based on field surveys and additional engineering during preparation of the Draft EIS. Potential impacts resulting from solutions to access issues involving side-streets and driveways have not been included in the data above. Solutions to these access issues could include frontage roads, "backage" roads, the purchase of access rights and/or any combination of these.

Level 3 - Recommendation Summary*

Would The Alternative Be Able To Meet Need & Purpose and Project Objectives?		Alternatives Advance into DEIS or Eliminate	Based on:	No Build	Overpass/ Expansion	Overpass/Expansion and Widen Blanco Road and	Expressway			Elevated Expressway		
							Non-Toll	Toll	Managed	Non-Toll	Toll	Managed
				Advance	Advance	Eliminate	Advance			Advance		
	Provide for Transportation Needs of Existing Growth and Planned Future Growth	Be consistent with adopted local and regional plans and policies	San Antonio-Bexar County Metropolitan Planning Organization's 2035 Metropolitan Transportation Plan [1]	No	No	No	No	Yes	No	No	Yes	No
			VIA Comprehensive Plan [2]	TBD	TBD	TBD		TBD			TBD	
			Camp Bullis Mission [3]	Yes	Yes	No		Somewhat			Somewhat	
		Satisfy Future Travel Demand	Average speed on U.S 281 [7] Level of Service (LOS) [9] Average Daily Traffic (ADT) [8]	No	Somewhat	Somewhat		Yes			Yes	
		Develop facilities for multi-modal transportation	Pedestrian, Bike, Transit, & HOV/HOT	No	Somewhat	Somewhat		Yes			Yes	
		Allow for future high capacity transit	Ease of future implementation [5]	No	No	No		Yes			Yes	
	Improve Functionality (Mobility and Accessibility)	Reduce travel time and increase travel speeds	Average speed on U.S. 281 [7]	No	Somewhat	Somewhat		Yes			Yes	
		Reduce conflicts between local and through traffic	# of conflict points [14]	No	Somewhat	Somewhat		Yes			Yes	
		Improve access to adjacent property	# driveways and side-streets potentially closed/realigned [15]	No	No	No		Yes			Somewhat	
	Improve Safety	Reduce crash rates	Regional crash reduction [13]	No	Somewhat	Somewhat		Yes			Yes	
		Reduce number of high crashes locations	Exposure to existing conflict points on US 281 Corridor	No	Somewhat	Somewhat		Yes			Yes	
	Enhance Quality of Life	Avoid or minimize adverse social and economic impacts	Potential displacements [21] Level of Service F (LOS F) [9] Average speed on U.S 281 [7]	No	Somewhat	No		Somewhat			Somewhat	
		Avoid or minimize adverse water quality impacts	Ability to improve storm water management	No	Yes	Yes		Yes			Yes	
		Enhance air quality	Estimated change in air quality [26]	No	Somewhat	Somewhat		Yes			Yes	
		Minimize/avoid impacts to wildlife habitat	Wooded acres within the right-of-way [24]	Yes	Somewhat	Somewhat		Somewhat			Somewhat	
		Minimize noise impacts	Ability to provide noise mitigation	No	Somewhat	Somewhat		Somewhat			Somewhat	
		Maximize use of non-toll funding	Potential amount of public funding	N/A	TBD	TBD		TBD			TBD	
		Provide facilities for walking and biking	Incorporation of bicycle and pedestrian facilities	No	Yes	Yes		Yes			Yes	
		Provide for aesthetics & landscaping	Application of Context Sensitive Solutions	No	Yes	Yes		Yes			Yes	

* Note: The [#] references the Draft Level 3 Evaluation Results. This overview assessment was prepared for the purpose of screening the alternatives. The information presented in this table is preliminary and subject to change based on field surveys and additional engineering during preparation of the Draft EIS. Potential impacts resulting from solutions to access issues involving side-streets and driveways have not been included in the data above. Solutions to these access issues could include frontage roads, "backage" roads, the purchase of access rights and/or any combination of these.

ALTERNATIVES DEVELOPMENT AND SCREENING PROCESS RESULTS

LEVEL 3 ALTERNATIVE RECOMMENDED FOR ELIMINATION

Further Widening of Blanco Road and Bulverde Road

- Impact to Camp Bullis Operations
- High amount of additional Right Of Way Required
- Large Number of Potential Displacements
- High Potential for Adverse Environmental Impacts

US 281
Blanco Road
Bulverde Road

ALAMO REGIONAL MOBILITY AUTHORITY
CONCEPTUAL LAYOUT

BLANCO RD WIDENING

N-1352

ALAMO RMA

JACOBS

ALAMO REGIONAL MOBILITY AUTHORITY
CONCEPTUAL LAYOUT

US 281 - BIR
SAN ANTONIO, TEXAS
BEXAR COUNTY

BULVERDE RD WIDENING

N-1353

ALAMO RMA
Alamo Regional Mobility Authority
"Moving people faster"

JACOBS
JACOBS ENGINEERING GROUP INC. FIRM #2966

EXISTING BULVERDE RD TYPICAL
FROM LOOP 1604 TO EVANS RD

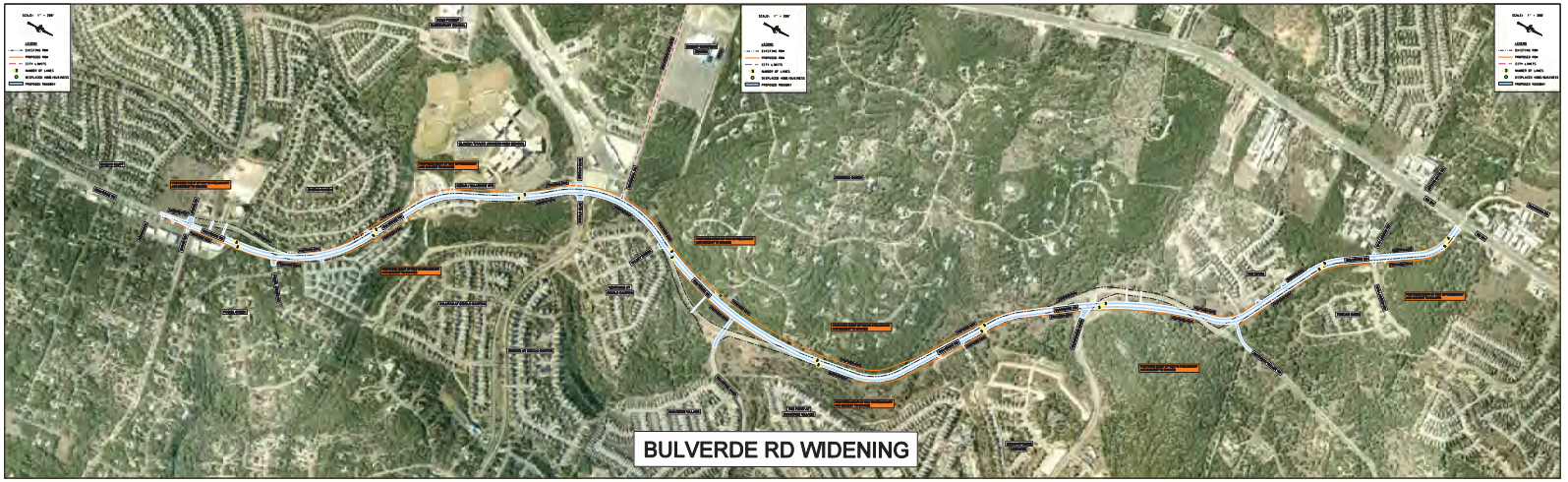
EXISTING BULVERDE RD TYPICAL
FROM EVANS RD TO MARSHALL RD

EXISTING BULVERDE RD TYPICAL
FROM MARSHALL RD TO APPROX. 0.300' NORTH

EXISTING BULVERDE RD TYPICAL
NORTH OF WILDERNESS OAK

EXISTING BULVERDE RD TYPICAL
FROM SMITHSON VALLEY RD TO U.S. 281

PROPOSED BULVERDE RD



RECOMMENDED REASONABLE ALTERNATIVES TO BE CARRIED FORWARD INTO DRAFT EIS

- No Build
  - US 281 Super Street Improvements
  - Loop 1604/US 281 Southern Direct Connectors
  - Routine Maintenance
  - All Other Improvements/Strategies in Long Range Transportation Plan Except US 281 north of Loop 1604
- Overpass / Expansion Alternative
  - Non-Toll
- Expressway Alternative
  - Non-Toll
  - Toll
  - Managed
- Elevated Expressway Alternative
  - Non-Toll
  - Toll
  - Managed

Complementary Elements of All Build Alternatives

- Bus, Park-and-Ride Facilities
- Bike & Pedestrian Facilities
- Growth Management
- Transportation System Management
- Transportation Demand Management

RECOMMENDED REASONABLE ALTERNATIVES TO BE CARRIED FORWARD INTO DRAFT EIS

Alternative 1: Overpass / Expansion (Non-Toll)

Preliminary and Subject to Change

US 281 and Evans Rd

US 281 and Marshall Rd

Alternative 2: Expressway (Non-Toll, Toll, Managed)

Preliminary and Subject to Change

US 281 and Evans Rd

US 281 and Marshall Rd

Alternative 3: Elevated Expressway (Non-Toll, Toll, Managed)

Preliminary and Subject to Change

US 281 and Evans Rd

US 281 and Marshall Rd

WHAT'S NEXT?

What's Next?

- Upcoming -

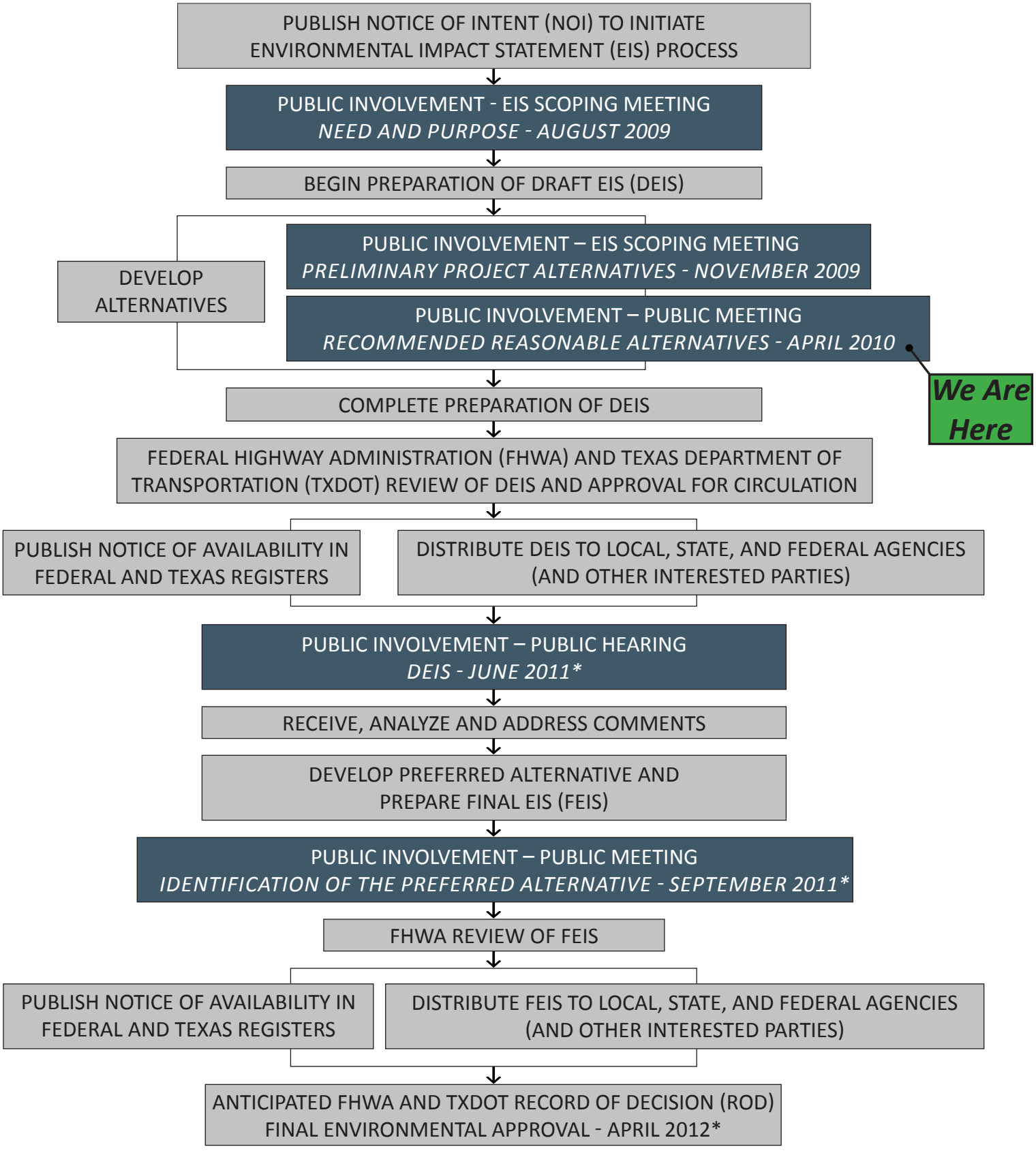
Public Involvement Activities

- Peer Technical Review Committee Meetings
- Community Advisory Committee Meetings
- Presentations to Homeowners Associations and Other Community Organizations (upon request)
- Public Hearing on Draft EIS (June 2011*)
- Public Meeting on Preferred Alternative (September 2011*)
- Newsletters
- Website Updates to *www.411on281.com/US281EIS*

* Approximate Dates

ALAMO RMA
Alamo Regional Mobility Authority
"Moving people faster"

Environmental Impact Statement Process



* Approximate Dates

FACTORS BEING CONSIDERED IN THE DRAFT EIS

- Land Use Impacts
- Farmland Impacts
- Social Impacts including Environmental Justice (includes tolling analysis)
- Relocation Impacts
- Economic Impacts (includes tolling analysis)
- Transportation Impacts
- Multi-Agency Planning (i.e. coordination with VIA Metropolitan Transit)
- Considerations Relating to Pedestrians and Bicyclists
- Air Quality Impacts
- Noise Impacts
- Geology/Soils
- Avoid/minimize adverse water quality Impacts
- Wetland Impacts
- Water Body Modifications
- Floodplain Impacts
- Vegetation Impacts
- Wildlife Impacts
- Threatened or Endangered Species
- Historic and Archeological Impacts
- Hazardous Waste Sites
- Visual Impacts
- Energy
- Construction Impacts
- Indirect Impacts
- Cumulative Impacts
- Mitigation and Permit Requirements
- Public Involvement

How to Record and Submit Your Comments

At the Meeting:

- Fill out a comment card and drop in the comment box

and/or

- Give your comments verbally to the Court Reporter

After the Meeting:

- Submit comments (through Monday, May 10, 2010)
  - Fax to (210) 495-5403
  - E-mail to US281EIS@AlamoRMA.org
  - Website www.411on281.com/US281EIS
- Mail written comments (through Monday, May 10, 2010) to:

US 281 EIS Team

Alamo Regional Mobility Authority

1222 N. Main Avenue, Suite 1000

San Antonio, Texas 78212

The presentation and exhibits from tonight's meeting are available for download at

www.411on281.com/US281EIS

ALAMO RMA

Alamo Regional Mobility Authority

"Moving people faster"

COURT REPORTER

All verbal comments given to the Court Reporter will be included in the Public Meeting Record

ALAMO RMA
Alamo Regional Mobility Authority
"Moving people faster"